

Title (en)
FRICTION STIR WELDING DEVICE

Title (de)
REIBRÜHRSCHEISSVORRICHTUNG

Title (fr)
DISPOSITIF DE SOUDAGE PAR FRICTION MALAXAGE

Publication
EP 2639006 B1 20160518 (EN)

Application
EP 11873951 A 20111014

Priority
JP 2011073675 W 20111014

Abstract (en)
[origin: EP2639006A1] A friction stir welding apparatus (10) includes a rotating tool (1) provided with an upper rotating body (2) arranged to be axially adjustable in position by an upper actuator (20A), a lower rotating body (3) integral with a rotating main rod (16) extending through the upper rotating body and arranged to be axially adjustable in position by a lower actuator (20B), and a stirring part (4) formed in the rod (16). The upper rotating body (2) and the lower rotating body (3) clamp therebetween a joint (310) of members to be joined (300) placed with their end faces butting each other. The stirring part is rotated to stir the joint by frictional heat to join them. The rotating tool (1) includes a slide plate (5, 6) attached, through a thrust bearing (41, 42), to one or both of end portions of the upper rotating body (2) and the lower rotating body (3) facing each other to provide good finished surfaces of the joint.

IPC 8 full level
B23K 20/12 (2006.01)

CPC (source: EP US)
B23K 20/1225 (2013.01 - US); **B23K 20/123** (2013.01 - US); **B23K 20/126** (2013.01 - EP US)

Cited by
EP2995411A1; CN106163722A; CN106077946A; EP2995412A1; US9457513B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 2639006 A1 20130918; EP 2639006 A4 20140611; EP 2639006 B1 20160518; JP 5204928 B1 20130605; JP WO2013054441 A1 20150330; US 2014231490 A1 20140821; US 9216472 B2 20151222; WO 2013054441 A1 20130418

DOCDB simple family (application)
EP 11873951 A 20111014; JP 2011073675 W 20111014; JP 2012527543 A 20111014; US 201113806022 A 20111014